

Introducing The ST100 Mass Flow Meter: Gas Flow Measurement Is Now “Future-Ready”

Chemical, Electric Power, Food, Oil & Gas, Refining
Water & Wastewater Treatment, Mining, Metals



San Marcos, CA—The debut of the breakthrough **ST100 Series Thermal Mass Flow Meter** from [Fluid Components International \(FCI\)](#), sets a new industry benchmark in process and plant gas flow measurement instrumentation. The leading-edge ST100 combines superior flow sensing performance with the industry’s most feature-rich and function-rich electronics to deliver unsurpassed adaptability and

value to meet plant gas flow measurement applications for today and tomorrow.

FCI developed the advanced ST100 Series Flow Meters in response to countless hours of discussions with a wide range of instrument, process and plant engineers who wanted both more comprehensive measurement information as well as the flexibility to adapt to plant and process control technology they might deploy in the future.

The future-ready ST100 Series Flow Meter is the result of those conversations. Beyond its ability to continuously measure, display and transmit the most extensive array of parameters, it is the industry’s first thermal mass gas flow meter designed with a migration path to tomorrow. Whether the need is for conventional 4-20 mA analog, frequency/pulse, alarm relays or advanced digital bus communications such as HART, Foundation Fieldbus, Profibus or Modbus, the new ST100 is the solution,

Should a plant’s needs change over time or an upgrade be desirable, the ST100 Flow Meter adapts as necessary with a plug-in card replacement that can be changed out by plant technicians in the field. That takes “never obsolete” to a whole new level in flow measurement instrumentation.

The new ST100 Flow Meter’s sophisticated LCD display/readout brings new meaning to the term “process information”. The ST100’s unique graphical, multivariable, backlit LCD display provides the industry’s most comprehensive information with continuous display of all process measurements and alarm status, and the ability to interrogate for service diagnostics.

The comprehensive ST100 measures gas mass flow rate, total flow, temperature and pressure depending on the model family. The ST100 stores up to five unique calibration

groups to accommodate broad flow ranges, differing mixtures of the same gas and multiple gases, and obtains up to 1000:1 turndown. An optional, patent-pending SpectraCal™ Gas Equivalency calibration method lets users select and switch between 10 common gases. Also standard is an on-board data logger with an easily accessible, removable 2-GB micro-SD memory card capable of storing 21 million readings.

With the ST100, FCI becomes the industry’s first thermal manufacturer to offer three different types of flow sensors to best match user applications. The FPC-style is a fast response type that features an integral, patent pending flow conditioner and protective shroud optimized for compressed air and clean gas applications. The FP-style is a fast response, general purpose design with a protective shroud and is also the sensor used with FCI’s VeriCal™ in-situ calibration option. For applications with wet or dirty gases, or erratic flows, the unshrouded S-style facilitates easy cleaning and provides a smoothed response.

The ST100 Series is comprised of two core model families: the ST and STP. The ST family measures both mass flow and temperature, and the exclusive STP family adds a third parameter—pressure. The STP configuration makes the ST100 the world’s first triple-variable thermal flow meter, measuring flow, temperature and pressure. Both families include single-point and dual-element models as configurations outfitted with FCI’s exclusive in-situ calibration option, VeriCal.

The ST100 can be calibrated to measure virtually any process gas, including wet gas, mixed gases and dirty gases. The basic insertion style air/gas meter features a thermal flow sensing element that measures flow from 0.25 to 1000 SFPS (0.07 NMPS to 305 NMPS) with accuracy of ± 0.75 percent of reading, ± 0.5 percent of full scale.

ST100 Flow Meters are designed for rugged industrial process and plant applications, including service up to 850°F (454°C). Both integral and remote (up to 1000 feet [300 meters]) electronics versions are the available. The ST100 is agency approved for hazardous environments, including the entire instrument, the transmitter and the enclosure. Instrument approvals (submitted and pending) include: FM and FMc: Class 1, Division 1, hazardous locations, Groups B, C, D, E, F, G; ATEX and IECEx: Zone 1, II 2 GD Ex d IIC T4; The rugged enclosure is NEMA 4X/IP67 rated.

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